

Stork Twin City Testing Corporation

PROJECT NUMBER: SOU263-01-15-91979

DATE: January 21, 2008

PAGE 1 of 1

TENSILE TEST

Sample Identification:

Cracked 2" diameter gas pipe section from PS07-002 Natural Gas Incident, Mitchell, South Dakota

Test Location:

Adjacent End B of full-length section

Specimen Size:

Overall 10" length with 2-1/4" reduced section, 2" gage length, 1" wide within gage length and 1-1/2" wide at grip ends. This specimen varies from API 5L requirement, but was used because of curvature.

Result:

| Sample Identification | Yield Strength (0.2 % Offset), psi | Tensile Strength, psi | Elongation in 2", % |
|------------------------------|---|------------------------------|----------------------------|
| Cracked gas pipe section | 42,500 | 63,600 | 28.5 |
| Grade A25, Class II* | 25,000 min | 45,000 min | 28 min |
| Butt-welded, Class II** | 28,000 min | 48,000 min | 20 min in 8" |

* API Specification 5L dated March, 2004 effective date October 4, 2004

** API Specification 5L dated March, 1955

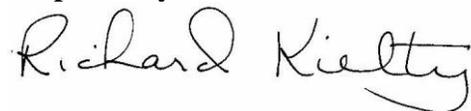
The mechanical properties meet the specified requirements. The yield strength was determined by the 0.2 % offset method rather than the specified 0.5 % extension method. This change was necessary since the curvature in the grips caused slippage resulting in a relatively flat stress-strain curve.

The tensile test was conducted on January 16, 2008 according to ASTM: A370-07a.

Test Equipment:

1. MTS Model 810 Material Test System, System Number US1.12366 calibrated 12/3/07
2. MTS Extensometer (1"), Model Number 632-12B-20, Serial Number 634 calibrated 12/3/07

Prepared By:



Richard Kielty, P.E.
Senior Metallurgical Engineer
Materials Testing & Analysis Group
Phone: (651) 659-7229

Reviewed By:



Viswanathan Krishnamoorthi, P.E.
Manager, Failure Analysis
Materials Testing & Analysis Group
Phone: (651) 659-7346